

REMARKS

Claims 1-7 and 9-27 are pending in the present application. Claims 1-6 are rejected under 35 U.S.C. 102(b), claims 7 and 9 are rejected under 35 U.S.C. 103(a), claims 10-17 are objected to, and claims 18-27 are allowed. Claims 1, 3, 7, and 11 are amended, and claims 2 and 10 are canceled. No new matter is added. The rejections are respectfully traversed in light of the following remarks, and reconsideration is requested.

Rejections under 35 U.S.C. § 102(b)

Claims 1 and 4-6 were rejected under 35 U.S.C. 102(b) as being anticipated by Davidson (USPN 5,364,004). Davidson discloses a bond tool having a passage 44 for providing passage of the wire from the spool to the IC, an edge element 38 that "extends from the first side surface 41 of distal end 34 to the substantially opposing second side surface 43 of the distal end of bonding tool 14", and a flat bonding face 36. (Col. 3, line 55 to col. 4, line 35; Figs. 3 and 4).

In contrast, claim 1, as amended, recites "a guide portion for guiding the wire along a path, wherein the guide portion is along the path of the wire; a grooving portion adjacent to the guide portion for forming a groove in the bond, wherein the grooving portion is approximately inverted V-shaped along the path of the wire; and a staking portion adjacent to the grooving portion for closing the groove, wherein the guide portion, grooving portion, and staking portion are all located on the bond tool, and wherein the staking portion is approximately V-shaped along the path of the wire". Support for the amendment is found in Applicants' Figs. 8 and 9 and corresponding text. Thus, no new matter is added. As seen from Figs. 8 and 9, the bond head of Applicants' invention has a guiding portion 402, an inverted V-shaped grooving portion 404, and a V-shaped staking portion 406, all along the path of the wire. In other words, the V and inverted V-shapes are in a line along the length of

MACPHERSON, KWOK CHEN
& HEID LLP
1763 TECHNOLOGY DRIVE
SUITE 225
SAN JOSE, CA 95110
(408) 752-7042
FAX (408) 752-7043

the bond head and along the wire path. This is not disclosed or suggested in Davidson. As seen from Fig. 3 of Davidson, the V shapes pointed out by the Examiner are across the bond head, and not along the path of the wire.

Further, Davidson discloses the flat bonding face 36, which the Examiner calls the staking portion, is flat, not V-shaped.

Therefore, claim 1 is patentable over Davidson because Davidson does not teach or suggest a bond tool having V-shaped and inverted V-shaped portions along the path of the wire or a V-shaped staking portion, as recited in claim 1.

Claim 2 is canceled. Claims 3, 4, and 6 depend on claim 1 and are thus patentable over Davidson for at least the same reasons as claim 1.

Claims 1-6 were rejected under 35 U.S.C. 102(b) as being anticipated by Killingsworth et al. (USPN 3,627,192). In rejecting the claims, the Examiner states that Killingsworth teaches "a guide portion (23), a V-shaped grooving portion (18), and a V-shaped staking portion (20)."

Killingsworth et al. disclose a bond head having "an opening 23 which serves to guide the wire towards the edge tip", a recess portion or groove 18, and a transverse groove 20. (Col. 2, lines 6-38; Figs. 3 and 4). As seen from Figs. 3 and 4 in Killingsworth, the curved shape of groove 18 and groove 20 is across the bond tool and across the path of the wire and not along the length of the bond tool and the path of the wire. In contrast, claim 1 recites that the V-shaped and inverted V-shaped portions are all along the path of the wire, or equivalently along the length of the bond head. Killingsworth also shows that the curved shape of both groove 18 and 20 are in the same orientation. In contrast, claim 1 recites that the grooving portion (which the Examiner calls groove 18) is an inverted V-shape and the staking portion (which the Examiner calls groove 20) is a V-shape, i.e., their V-shape orientation is opposite, not the same.

MICHAELSON, KWOK CHEN
& TSE LLP
1700 TECHNOLOGY DRIVE
SUITE 225
SAN JOSE, CA 95110
(408) 752-7949
FAX (408) 752-7049

Therefore, for the reasons above, claim 1 is patentable over Killingsworth et al.

Claim 2 is canceled. Claims 3-6 depend on claim 1 and are thus patentable over Killingsworth et al. for at least the same reasons as claim 1.

Claims 1-6 were rejected under 35 U.S.C. 102(b) as being anticipated by Eltzroth et al. (USPN 3,689,983). The Examiner writes that "Eltzroth teaches a bond tool . . . comprising a guide portion (44), a V-shaped grooving portion (39), and a V-shaped staking portion (42)" and does not place weight on intended use. Applicants respectfully disagree. Claim 1 recites a "grooving portion" and a "staking portion". As is well accepted, Applicants can act as its own lexicographer. The notch 39 of Eltzroth is not a "grooving portion". As clearly described in Applicants' specification, a grooving portion forms a groove in the bond. The notch 39 of Eltzroth does not and cannot form a groove in the bond. Thus, notch 39 cannot be construed as a grooving portion. For illustrative purposes only, the element "grooving portion" may also be viewed as a "means" for forming a groove, although this does not require the grooving portion to be construed as a means plus function element.

Similarly, the groove 42 of Eltzroth is not a "staking portion". Applicants' specification clearly describes the staking portion as something to close the groove around the wire. The groove 42 simply enables the wire to travel along an angle of the bonding tool, as seen from Fig. 4. Thus, groove 42 cannot be construed as a staking portion. For illustrative purposes only, the element "staking portion" may also be viewed as a "means" for closing a groove, although this does not require the staking portion to be construed as a means plus function element.

Accordingly, Applicants contend that Eltzroth does not teach or disclose a grooving portion or a staking portion.

Further, Eltzroth discloses that notch 39 is V-shaped across the face of the bond head and across the path of the wire, as seen in Figs. 3 and 4. In contrast, claim 1 recites that the

MYNTERSON, KWOK CHEN
& HEID LLP

1700 TECHNOLOGY DRIVE
SUITE 216
SAN JOSE, CA 95110
(415) 752-7040
FAX (415) 752-7049

inverted V-shape is along the path of the wire. Further yet, Eltzroth discloses, in Fig. 4, that the curve of groove 42 and the slant of notch 39 are both in the same orientation, i.e., both having the open end pointed downward. However, claim 1 recites that the grooving portion (construed as notch 39 by the Examiner) has an approximately inverted V-shape, while the staking portion (construed as groove 42 by the Examiner) has an approximately V-shape. Thus, the grooving portion and staking portion of Applicants' claim 1 are opposite in orientation.

For these reasons, Applicants contend that claim 1 is patentable over Eltzroth et al.

Claim 2 is canceled. Claims 3-6 depend on claim 1 and are thus patentable over Eltzroth et al. for at least the same reasons as claim 1.

H2C PEARSON, KWOK CHEN
& REED LLP
1762 TECHNOLOGY DRIVE
SUITE 206
SAN JOSE, CA 95110
(979) 732-7040
FAX (949) 732-7049

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. § 102.

Rejections under 35 U.S.C. § 103(a)

Claims 7 and 9 were rejected under 35 U.S.C. 103(a) as being unpatentable over Lo et al. (USPN 5,626,276) in view of Killingsworth et al. (USPN 3,627,192).

However, claim 10, which depends on claim 7, is indicated as being allowable if rewritten to incorporate the limitations of a base claim and any intervening claims. Claim 7 has been amended to recite the limitations of claim 10.

Therefore, claim 7 is now allowable.

Claim 9 is dependent on claim 7 and is thus allowable for at least the same reasons as claim 7.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. § 103.

Allowable Subject Matter


Applicants thank the Examiner for the indication of allowance for claims 18-27 and of allowable subject matter for claims 10-17.

Claim 10 has been canceled, and its limitations incorporated into claim 7. Claims 11-14 depend on claim 7. Claim 15 is independent and is believed allowable, as set forth in the prior response. Claims 16-17 depend on claim 15 and are likewise now allowable.

MacPHERSON, KWON CHERN
A HED LLP
1702 TECHNOLOGY DRIVE
SUITE 224
SAN JOSE, CA 95110
(415) 753-7040
FAX (415) 753-7049

CONCLUSION

For the foregoing reasons, Applicants believes pending claims 1, 3-7, 9, and 11-27 are allowable, and a notice of allowance is respectfully requested. If the Examiner has any questions regarding the application, the Examiner is invited to call the undersigned Attorney at (949) 752-7040.

Certification of Facsimile Transmission	
I hereby certify that this paper is being facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.	
 Monique M. Butler	May 8, 2006 Date of Signature

Respectfully submitted,



Tom Chen
Attorney for Applicant(s)
Reg. No. 42,406

MACPHERSON, KWOK CHEN
& DEID LLP

1700 TECHNOLOGY DRIVE
SUITE 225
SAN JOSE, CA 95110
(949) 752-7040
FAX (949) 752-7048